J. ent. Soc. sth. Afr. 1975
Vol. 38, No. 1, pp. 79–83

A new genus and species of termitophilous Staphylinidae associated with *Rhadinotermes* Sands in Rhodesia (Coleoptera)*

by

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A new genus, *Rhadinoxenus*, is described, illustrated (type-species, *Rhadinoxenus pretoriusi* spec. nov.), and assigned to the subtribe Termitogastrina tribe Corotocini, subfamily Aleocharinae. The type-species, also new, is described from a nest of *Rhadinotermes coarctatus* (Sjoestedt) from the eastern district of Rhodesia. Its relationships with other genera of Termitogastrina and the genus *Termitochara* are discussed.

INTRODUCTION

It is the fate of most good researchers to make their own works obsolete. Thus, Coaton & Sheasby (1974) report that "Reasonable concentrations of nest structures, which would facilitate searches for termitophiles, have not yet been exposed." On a recent field trip which is part of South Africa's Rhodesian Termite Survey, the team of W. G. H. Coaton, J. L. Sheasby and G. F. Pretorius uncovered the first termitophile ever to be captured from nests of *Rhadinotermes coarctatus* (Sjoestedt) which is as yet the only species of the genus *Rhadinotermes* Sands (1965). It is the purpose of this paper to describe and illustrate this new staphylinid genus and to comment upon its apparent relationships.

Subfamily	ALEOCHARINAE
Tribe	COROTOCINI
Subtribe	TERMITOGASTRINA

RHADINOXENUS gen. nov.

Type-species *Rhadinoxenus pretoriusi* spec. nov.

Most closely related to *Termitellodes* Seevers from which it is distinguished by the more primitive abdomen with its unmodified tergites VI and IX.

Overall shape as in fig. 1 and 2A. Head ovoid, slightly wider behind than in front of the eyes; without a distinct neck or nuchal ridge. Eyes present and well developed with both anteriorly and laterally directed facets. Antennae inserted between the

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* Financial assistance by the National Science Foundation of the United States of America (Grant GB-42727X) is gratefully acknowledged.

eyes very near and lateral to the anterior tentorial pits. Gula with the sides slightly divergent from anterior to posterior. Mentum, submentum, and gula all fused together; clypeus very short. Antennae 11-segmented; shaped as in fig. 1; with 2 basiconic sensilla on the terminal segment. Mandibles well sclerotized but not dissectable from a unique specimen. Maxillae shaped as in *Idiogaster trinervoides* Kistner; palpi 4-segmented. Labium shaped as in *Idiogaster* Wasmann; palpi 3-segmented. Labium short, shaped as in *Idiogaster*.

Pronotum slightly wider than long, shaped as in fig. 2A. Pronotum with the disk impressed, but without an impressed midline. Lateral edges of pronotum strongly angular with the hypomera descending vertically at a right angle to the dorsal surface. Prosternum relatively wide and evenly rounded between the legs, with articulation processes about 1/3 the width of the prosternum. Procoxal cavities closed behind by membrane in which are embedded the strap-like mesothoracic peritremes. Meso- and metanotum shaped as in *Idioptochus* Seevers with the abdominal tergite I elongated. Mesosternum about 1/2 as long as metasternum; broadly produced between the widely separated mesocoxal cavities. Mesocoxal cavities with margined acetabulae. Mesosternum with an intercoxal carina. Elytra longer than wide, shaped as in fig. 2B with the sides reflexed vertically. Wings absent except for small stubs. Pro-, meso-, and metalegs shaped as in *Idioptochus*, torsal formula 4-4-4.

Overall shape of abdomen as in fig. 2A; physogastric and normally recurved over the back as in fig. 1B. All terminology in the following refers to the morphological orientation rather than the functional orientation. Abdominal segment I membranous in middle but with sclerotized lateral triangles; represented by the tergite alone which is fused to the metanotum. Segment II represented by the tergite which is only 2/3 as wide as tergite III and with the lateral edges deflected posteriorly. Segments III–VII with a tergite, sternite, and 2 pairs of paratergites each but the borders between inner and outer paratergites are obscured. Dorsal rim of the abdomen is between the inner and outer paratergites. Tergal reservoir which opens between tergite VI and VII with a single median opening. Sclerotized reservoirs along entire length of anterior edges of tergite VII and VI; extending even into the paratergite area. Sternites III–VII longer than the corresponding tergites to produce a slight upward tilt to the abdomen. Sternite III not unduly expanded in length. Segment VIII represented by tergite and sternite only. Segment IX trivalved. Genitalia unknown.

Rhadinoxenus pretoriusi spec. nov., figs 1–2

Since this genus is presently monobasic, the characters isolated as being specific are based on experience with other related genera.

Colour yellowish brown throughout with the anterior and lateral edges of the pronotum dark brown. Anterior abdomen lighter than the rest of the body. Dorsal surface smooth and shiny with the lateral edges of the elytra somewhat shagreened. Abdominal tergites III–VII with 1 light coloured seta at each posterolateral corner. Tergite VII with 3 rows of about 8 setae each on the posterior half. Tergite VIII with 3 rows of about 6 setae each on the posterior half, mostly concentrated at the posterior corners. Paratergites III with 0 setae; IV–VI with 3–4 each on the inners and about 6 on the outers. Sternites with a sparse but regular covering of inconspicuous yellow setae. Genitalia unknown.

Measurements. Pronotum length, 0,40; elytra length at longest axis, 0,49; width of abdominal tergite VI, 0,70. Number measured, 1.

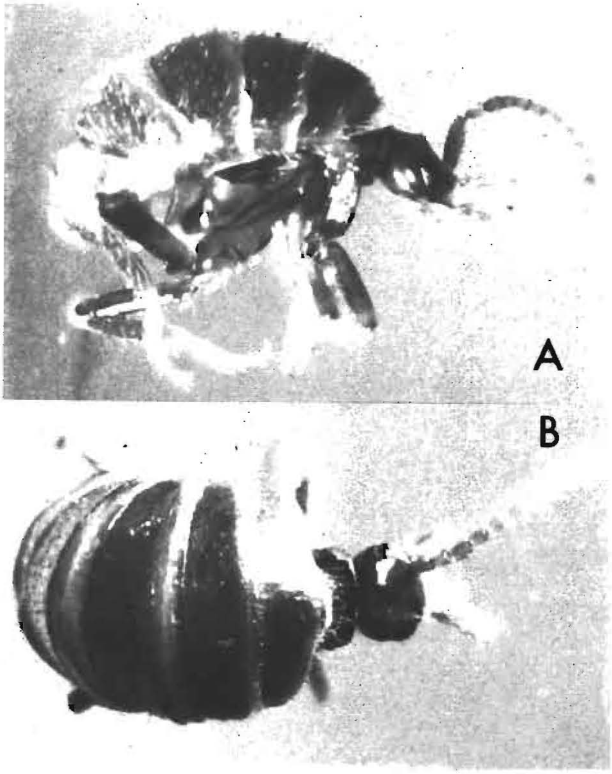

Fig. 1. *Rhadinoxenus pretoriusi* spec. nov. A. Lateral view B. Dorsal view as in nature with its abdomen reflexed over its back.

MATERIAL EXAMINED. *Holotype*. Female, No. 15464, Rhodesia, District Victoria, 32 km ex Fort Victoria–Glen Clova, 20° 0–15'S, 31° 0–15'E, 6 October 1973, Coll. G. F. Pretorius, No. T-876. In the National Collection of Insects, Pretoria.

Notes. The host termites (Colony No. TM28552) were determined as *Rhadinotermes coarctatus* (Sjoestedt) by W. G. H. Coaton and are in the National Isoptera Collection, Pretoria. The species is named after the collector, Mr G. F. Pretorius.

RELATIONSHIPS OF THE GENUS

A phylogeny of the African genera of the subtribe Termitogastrina and its rationale was presented by Kistner (1973). *Rhadinoxenus* appears to be a generalized genus with the abdomen somewhat physogastric but otherwise with few modifications. Tergites VI and VII and VIII are unmodified. The defense gland reservoir under the posterior border of tergite VI is present but reduced (width = 0,10 mm). Sclerotized reservoirs characteristic of the Termitogastrina are located at the anterior edges of tergite V, VI, and VII whereas they are usually located only on tergite VII in most other

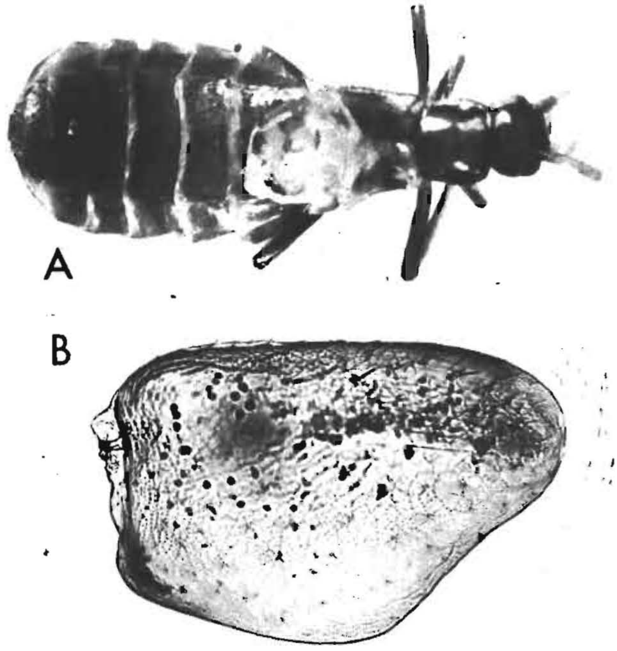

Fig. 2. *Rhadinoxenus pretoriusi* spec. nov. A. Dorsal view with abdomen cut and stretched back to show dorsal surface B. Elytron, right.

Termitogastrina. The maxillae are generalized. The mandibles have median teeth of normal size. These characteristics make the genus the most primitive of the African Termitogastrina and as primitive as nearly all of the most primitive of the Neotropical Termitogastrina such as *Termitosyne* Seevers and *Termitosynodes* Seevers. The only unique specialized feature is the presence of additional sclerotized reservoirs on tergites V and VI.

Sands (1965), as well as Krishna (1970), considered *Rhadinotermes* to be closely allied to *Fulleritermes* Coaton and in fact keys out the species in a combined key. Unfortunately, there are no Termitogastrina known from *Fulleritermes* nests yet so that comparisons of the termitophiles cannot be made. The only interpretation I can make is that the termitophiles are not closely related to those found with African *Nasutitermes* or *Trinervitermes* species but rather are closer to some of those found with Neotropical *Nasutitermes,* especially those found with *Nasutitermes nigriceps* (Haldeman). It is also closely related to *Termitochara* Wasmann which has been reported from a mixture of *Microcerotermes sikorae* Wasmann and *Capritermes capricornis* (Wasmann) from Madagascar. This species has not been recaptured since the type was taken and *Microcerotermes sikorae* is regularly associated with *Coarctotermes pauliani* Cachan (Paulian 1970). Since *Coarctotermes* is also related to *Rhadinotermes* and *Fulleritermes,* this relationship should be reexamined if new material can be collected.

ACKNOWLEDGEMENTS

Thanks are given to Dr W. G. H. Coaton and his colleagues at the Plant Protection Research Institute, Pretoria for providing the specimen upon which this paper is based and for providing the host identification.

Special thanks are extended to the following assistants for help with certain aspects of this study: Daniela Davison, Jan Fisher, and Richard McGaugh, all from California State University, Chico, and Judy Hanzo of the Neighborhood Youth Corps, Butte County.

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Manuscript received 25 September 1974.